

Abstract

A flow-through pressure regulator having a housing, and a divider. The housing includes an inlet and an outlet disposed along a longitudinal axis. The divider separates the housing into a first chamber and a second chamber, and includes a seat, a diaphragm, a retainer and a flow distributor member. The seat includes a sealing surface and a second surface, and defines a first flow path from the sealing surface to the second surface. The diaphragm extends between the housing and the seat. The retainer secures the diaphragm to the seat, and may include a base portion proximate the seat, an intermediate portion extending along the longitudinal axis from the base portion toward the outlet, an end portion extending from the intermediate portion, and at least one aperture that permits fluid communication between the first flow path and the second chamber. The flow distributor member is disposed between the first flow path and the end portion, and defines a second flow path with the second seat surface such that the second flow path includes a second flow axis disposed radially outward from the longitudinal axis.